REMARKS

Claims 21-46, 48-51, 53 and 54 are rejected. Claims 1-20, 47 and 52 are withdrawn from consideration. Claims 1-54 are subject to restriction and/or election requirement. Claims 21-46, 48-51, 53 and 54 are presently pending in the application. Favorable reconsideration of the application in view of the following remarks is respectfully requested.

Rejection Of Claims 21-46, 48-51, 53 and 54 Under 35 U.S.C. §103(a):

The Examiner has rejected Claims 21-46, 48-51, 53 and 54 under 35 U.S.C. §103(a) as being unpatentable over Maeda et al. (Japanese Kokai Patent Application No. Hei 7[1995]-137432). The Examiner states that, with respect to the new claim limitations, it is noted that the particles of Maeda et al. are cross-linked [0008], with respect to the limitation of the percentage of particles with a mean particle size below 0.5 microns, Maeda et al. uses different terminology to recite particle size, but it appears that its ranges would overlap with those instantly claimed.

The Examiner continues that Maeda et al. disclose a volume average particle size D that can be 0.5 microns, and, in addition, 70 wt % or more of the particles are in the size range of 0.5D-2.0D (i.e. 0.25 microns to 1 micron). The Examiner also states that Applicants' claim 21 requires that numerically at least 58% of the particles have a mean diameter of less than 0.5 micrometers. However, the previously amended claim 21 indicates that 58% of the particles have a "diameter" of less than 0.5 micrometers, not a mean diameter. The Examiner continues that, since this is a numerical percentage that would permit well over 58% of the particles by weight to have particle sizes over 0.5 microns, the claim reads on Maeda et al. (the particle size ranges overlap) and such particle size distributions would clearly have been suggested by [0006] of Maeda et al.

Maeda relates to an ink absorbing layer comprising hollow crosslinked particles in a binder on the surface of a support. The particle size range of the particles of Maeda range from 0.5-100 micrometers. Maeda fails to mention the use of porous polyester particles having a mean diameter less than 0.5 microns, and in which more than 58% of of these small particles have diameters smaller than 0.5 micrometers.

Maeda suggests particle with a size range of from 0.5-100 micrometers, larger than the particles presently claimed. The mere fact that reference can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)

Maeda suggests particle with a size range of from 0.5-100 micrometers. Maeda further suggests that 70% of the particles have a size greater than 0.5. This leaves only 30% of the particles with a size less than 0.5. The present claims require at least 58% of the particles to be smaller than 0.5 micrometers in size. These ranges do not overlap.

The Examiner states that, in addition, claim 29 states that the particles of claim 21 are "a component of an at least bimodal system" including other (larger) particles and, if this is the case then the percentage set forth in claim 21 is essentially nonlimiting, and Claim 21 does not appear to recite the complete set of component particles which may be present. As written, claim 29 is limited by claim 21, which means that at least 58% of the crosslinked are porous polyester particles with a diameter of less than 0.5 micrometers, whether distributed monomodally or bi-modally.

The Examiner also states that the amendment to claim 29 does not overcome the applicability of the Maeda et al. reference, as the claim is broad enough for multiple "at least bimodal" systems to be present and such multiple systems could cancel out the modality of the other systems that are present. The Applicants are uncertain what the Examiner means. According to Claim 29, which depends from Claim 21, 58% of the particles of the system have a particle diameter of less than 0.5 micrometers. The system has at least 2 modes (Bimodal: A statistical distribution having two separated peaks vs. Monomodal or Unimodal: A statistical distribution such as the normal distribution which has a single "peak." See Mathworld.wolfram.com; see also http://www.statsoft.com/textbook/glosind.html - unimodal, bimodal, multimodal), and at least one of the modes of particles has a mean particle diameter greater than 0.5 micrometers. However, 58% of the particles of the system still must have a particle diameter of less than 0.5 micrometers. More simply, in a multiple-mode system, one of the modes comprises larger particles, in a system with at least 58% of the particles with a particle diameter of less than 0.5 micrometers.

The assumption of the Examiner, that the porous particles of Maeda et al. are mono-model when taken as a whole, when subdivided into such systems, one system would be present which was at least bimodal and would have a mean particle diameter of greater than 0.5 micrometers, still does not produce a system with 58% of the porous polyester particles present with a diameter of less than 0.5 micrometers.

As stated in a previous response, Maeda relates to an ink absorbing layer comprising hollow crosslinked particles in a binder on the surface of a support. Maeda fails to mention the use of porous polyester particles having a mean diameter less than 0.5 microns, and in which more than 58% of these small particles have diameters smaller than 0.5 micrometers.

The present invention relates to porous polyester particles of less than 0.5 micrometers in diameter. These particles, when used in coatings provide reduced dry time, increased gloss and increased dye retention.

To establish a prima facia case of obviousness requires, first, there must be some suggestion or motivation, either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references (or references when combined) must teach or suggest all the claim limitations.

Maeda fails to mention the use of an ink receiving containing porous polyester particles, 58% of which have a diameter less than 0.5 micrometers and fails to mention the use of these particles to enhance the gloss, dry time and dye retention of a coated layer. Maeda also fails to produce a reasonable expectation of success, as Maeda fails to mention that particles of size less than 0.5 micrometers prove useful in providing a coating with a combined benefit of reduced dry time, increased gloss and increased dye retention (paragraph [0026] of Maeda). Maeda also teaches that these particles are difficult to handle in coating materials, if they are either too small or too large. (see paragraph [0006]). Finally, Maeda fails to teach all of the limitations of the present claims as it fails to teach or disclose an ink receiving layer containing porous polyester particles in which more than 58% of the particles have a particle size of less than 0.5 microns.

Even assuming such a *prima facia* case is made, the reference to Maeda teaches away from the present invention by indicating in [0006] that smaller particles are difficult to handle as coating additives.)." According to Maeda, not only are the particles greater than 0.5 in mean diameter, but the particles of this size occupy more than 70 weight % of the total. See Maeda, paragraph [0006]. The present claims are limited at least 58% of particles with a diameter of less than 0.5 microns. In addition, the present invention provides surprising combination of results of increased gloss, increased dye retention and reduced dry time when the particles are used as an additive in a coating, as illustrated by Elements 1, 2, and 5 in Table 5 on page 26 of the specification, at proportions of 58% or greater.

Rejection of Claims under 35 USC § 112:

The Examiner indicates that Applicants' arguments filed April 13, 2005 have been fully considered but they are not persuasive, although the rejection under 35 USC 112 has been withdrawn in view of applicants' amendments. However, the Examiner indicates that the record is unclear as to whether the values in the specification are actually numerical percentages of weight percentages. The values of the specification have been treated as numerical percentages since there is nothing of record to demonstrated that a weight percentages was intended. Applicants state that Table B indicates at least a 4-fold increase in 60% gloss when more than 58% of the particles have a particle diameter of more than 58%. The "58%" is numerical, since it is derived from statistical numbers.

The Examiner indicates that it would have been expected to one of ordinary skill in the art that gloss increases when smaller particles are used, as taught, for example, in Ogawa et al. (5,576,088), col. 5, lines 13-15. The Examiner notes that, while Máeda et al. may recognize certain drawbacks to the inclusion of small particles, one of ordinary skill in this art would have found it obvious to weigh all of the pros and cons of this aspect of the invention to determine appropriate sized particles for inclusion in the layer.

However, the present invention produces more results that just improved gloss. The present invention produces a unique combination of benefits - reduced dry time, increased gloss and increased dye retention - all together, by making one modification.

TABLE B

PE dispersion	% Particle Size < 0.5 micron	% Mode 1 < 0.5 micron	% Mode 2 < 0.5 micron	Element	60° gloss
PE-1	100	100	0	1	36
PE-2	100	5.9	94.1	2	72
PE-3	88.2	88.2	0	3	20
PE-4	58.6	58.6	0	4	28
PE-5	100	45.1	54.9	5	70
PE-6	82.1	82.1	0	6	40
PE-7	0	0	0	Control C-1	3
PE-8	0	0	0	Control C-2	5

In the examples, Comparative Examples 1 and 2 have low gloss with good dry time and good dye retention. Comparative Example 3 has good gloss and dye retention, but suffers from increased dry time. Comparative Example 4 has degraded dye retention, but acceptable gloss and dry time. It is only in the Inventive Examples that all three characteristics are improved. See pgs. 27, lines 1-11, Table 6 on pg. 29 and Table 5 on pg. 26.

The Examiner also indicates that some of the values in applicants' table are not understood, as it is unclear how it was determined that the comparisons have no percentage of particles under .5 microns in size from data on mean particle diameter. The Applicants do not argue that the comparisons have no percentage of particles under 0.5 microns in size, just that the comparative examples do not contain 58% or more of particles under 0.5 micron in size.

Using the Examiners example stating "If the average diameter is .682 microns, one would expect some percentage of the particles to have diameters under .5 microns unless the particle size was carefully controlled to exclude all smaller particles." The coefficient of variation for the particles of the present examples is found on pg. 23, Table 4. Although not experimentally controllable, the coefficient of variation of particles is measurable and is provided in the present specification.

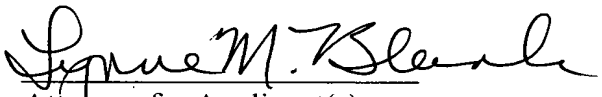
The particles of Maeda et al. may have a weight average particle size of 0.5 microns which numerically would require more that half numerically to be less that 0.5 microns in size. Therefore, it would be expected that the range of particle sizes of Maeda et al. either overlaps with that of applicants or is not patentably distinct therefrom. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art

also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). According to Maeda, not only are the particles greater than 0.5 in mean diameter, but the particles of this size occupy more than 70 weight % of the total. See Maeda, paragraph [0006]. The coefficient of variation is also given for Maeda (see [0006]) as a value of 30% or less. This would indicate that the particles do not have the necessary overlap to overcome the 58% limitation and are also patentably distinct. Not only does Maeda use larger sized particles, but also tight size control, as indicated by 30% or less coefficient of variation.

The Examiner indicates that, contrary to applicants' arguments with respect to claim 29, the other modes of particles recited therein are not required to be and would not have been expected to be present in a different layer without an explicit recitation of this structure. As indicated by the claim language, 58% of all of the porous particles present in the element must have a diameter less than 0.5 micrometers, regardless of how many layers are present in the element.

It is believed that the foregoing is a complete response to the Office Action and that the claims are in condition for allowance. Favorable reconsideration and early passage to issue is therefore earnestly solicited.

Respectfully submitted,



Attorney for Applicant(s)
Registration No. 42,334

Lynne M. Blank/ct
Rochester, NY 14650
Telephone: 585-477-7418
Facsimile: 585-477-1148

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.